



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/716,310

11/18/2003

Abdul Malik

USF-236XT

7300

23557 7590 10/09/2009  
SALIWANCHIK LLOYD & SALIWANCHIK  
A PROFESSIONAL ASSOCIATION  
PO Box 142950  
GAINESVILLE, FL 32614

EXAMINER

THERKORN, ERNEST G

ART UNIT

PAPER NUMBER

1797

NOTIFICATION DATE

DELIVERY MODE

10/09/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

euspto@slspatents.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/716,310	<b>Applicant(s)</b> MALIK ET AL.	
	<b>Examiner</b> Ernest G. Therkorn	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 18-25, 28, 29 and 35 is/are pending in the application.
- 4a) Of the above claim(s) 5, 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 18-21, 24, 25, 28, 29 and 35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Claims 1-4, 8-10, 18-21, 28, 29, and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support for “a non-branching sol-gel active portion of a dendrimer substrate” can be found. The specification would appear to be silent on the location of the attachment points to the dendrimer. As such, the claims are considered to be drawn to new matter.

Claims 1-4, 8-10, 18-21, 28, 29, and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not appear to teach how to form a sol-gel active site on a non-branching portion of a dendrimer substrate.

Claims 1-4, 8-10, 18-21, 28, 29, and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what the metes and bounds of “a non-branching sol-gel active portion of a dendrimer substrate” are. This is particularly true because there would not appear to be a definition of what is meant by the phrase “a non-branching sol-gel active portion of a dendrimer substrate”.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 8-10, 18-21, 28, 29, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik (WO 00/11463) in view of either Kim (U.S. Patent Pub. No. 2002/0020669) or Neumann (DE 19,621,741) and the PTO 03-679 translation of Neumann (DE 19,621,741). PTO 03-679 translation of Neumann (DE 19,621,741) will serve as a translation of Neumann (DE 19,621,741). At best, the claims differ from Malik (WO 00/11463) in reciting use of a dendrimer. Kim (U.S. Patent Pub. No. 2002/0020669) (paragraphs 9-10) discloses that dendrimers bonded on supports are economically feasible, versatile, and useable in chromatography. PTO 03-679 translation of Neumann (DE 19,621,741) on page 2, lines 3-10 discloses that use of dendrimers increases the number of functional groups thereby improving separation. It would have been obvious to use a dendrimer in Malik (WO 00/11463) because Kim (U.S. Patent Pub. No. 2002/0020669) (paragraphs 9-10) discloses that dendrimers bonded on supports are economically feasible, versatile, and useable in chromatography. It would have been obvious to use a dendrimer in Malik (WO 00/11463) because Neumann (DE 19,621,741), as evidenced by PTO 03-679 translation of Neumann (DE 19,621,741) on page 2, lines 3-10, discloses that use of dendrimers increases the number of functional groups thereby improving separation.

Claims 1-4, 8-10, 18-21, 28, 29, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik (WO 00/11463) in view of either Kim (U.S. Patent Pub. No. 2002/0020669) or Neumann (DE 19,621,741) and the PTO 03-679 translation of Neumann (DE 19,621,741) as applied to claims 1-4, 8-10, 18-21, 28, 29, and 35 above, and further in view of Newkome (U.S. Patent No. 5,703,271). At best, the claims differ from Malik (WO 00/11463) in view of either Kim (U.S. Patent Pub. No. 2002/0020669) or Neumann (DE 19,621,741) and the PTO 03-679 translation of Neumann (DE 19,621,741) in reciting use of isocyanate. Newkome (U.S. Patent No. 5,703,271) (column 7, lines 11-46) discloses isocyanate dendrimers have the flexibility of reacting with various chemical surfaces including siloxane and can be used in "column chromatography or the like for the selective removal of agents from the material flowing through the column." It would have been obvious to use isocyanate in Malik (WO 00/11463) in view of either Kim (U.S. Patent Pub. No. 2002/0020669) or Neumann (DE 19,621,741) and the PTO 03-679 translation of Neumann (DE 19,621,741) because Newkome (U.S. Patent No. 5,703,271) (column 7, lines 11-46) discloses isocyanate dendrimers have the flexibility of reacting with various chemical surfaces including siloxane and can be used in "column chromatography or the like for the selective removal of agents from the material flowing through the column."

The remarks urge patentability based upon the phrase "a non-branching sol-gel active portion of a dendrimer substrate". However, the phrase is considered to be indefinite, not enabled, and directed to new matter.

The remarks appear to urge that it is not technically possible to bond dendrimers to a support. However, Kim (U.S. Patent Pub. No. 2002/0020669) (paragraphs 9-10) discloses that dendrimers bonded on supports are economically feasible, versatile, and useable in chromatography. PTO 03-679 translation of Neumann (DE 19,621,741) on page 2, lines 3-10 discloses chemically bonding dendrimers to a stationary phase.

The remarks urge that it is not technically possible to bond dendrimers to a support with isocyanate. However, Newkome (U.S. Patent No. 5,703,271) (column 7, lines 11-46) discloses isocyanate dendrimers have the flexibility of reacting with various chemical surfaces including siloxane and can be used in "column chromatography or the like for the selective removal of agents from the material flowing through the column."

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Application/Control Number: 10/716,310

Page 6

Art Unit: 1797

Business Center (EBC) at 866-217-9197 (toll-free).

/Ernest G. Therkorn/  
**Ernest G. Therkorn**  
**Primary Examiner**  
**Art Unit 1797**

EGT  
September 28, 2009